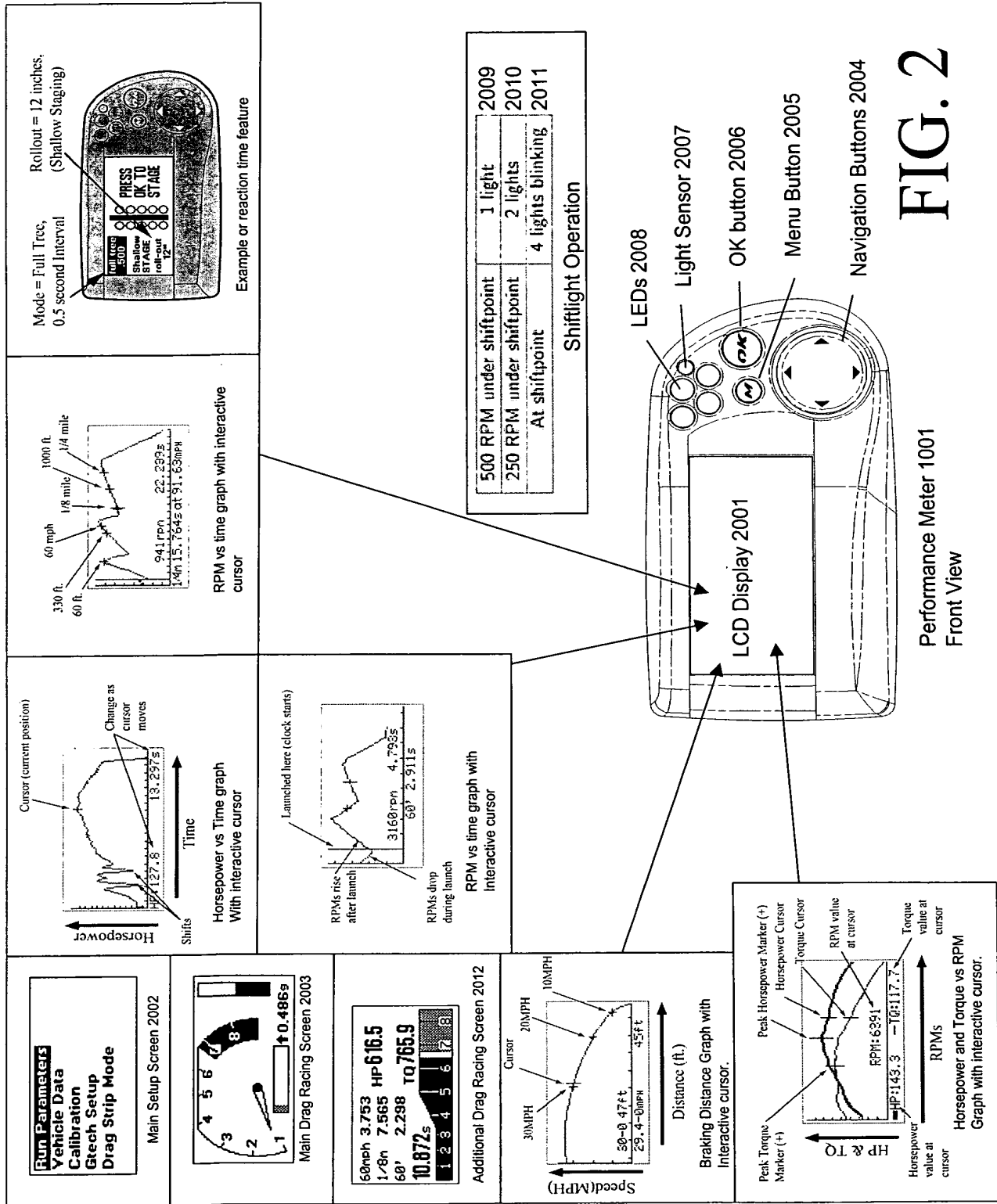


FIG. 1



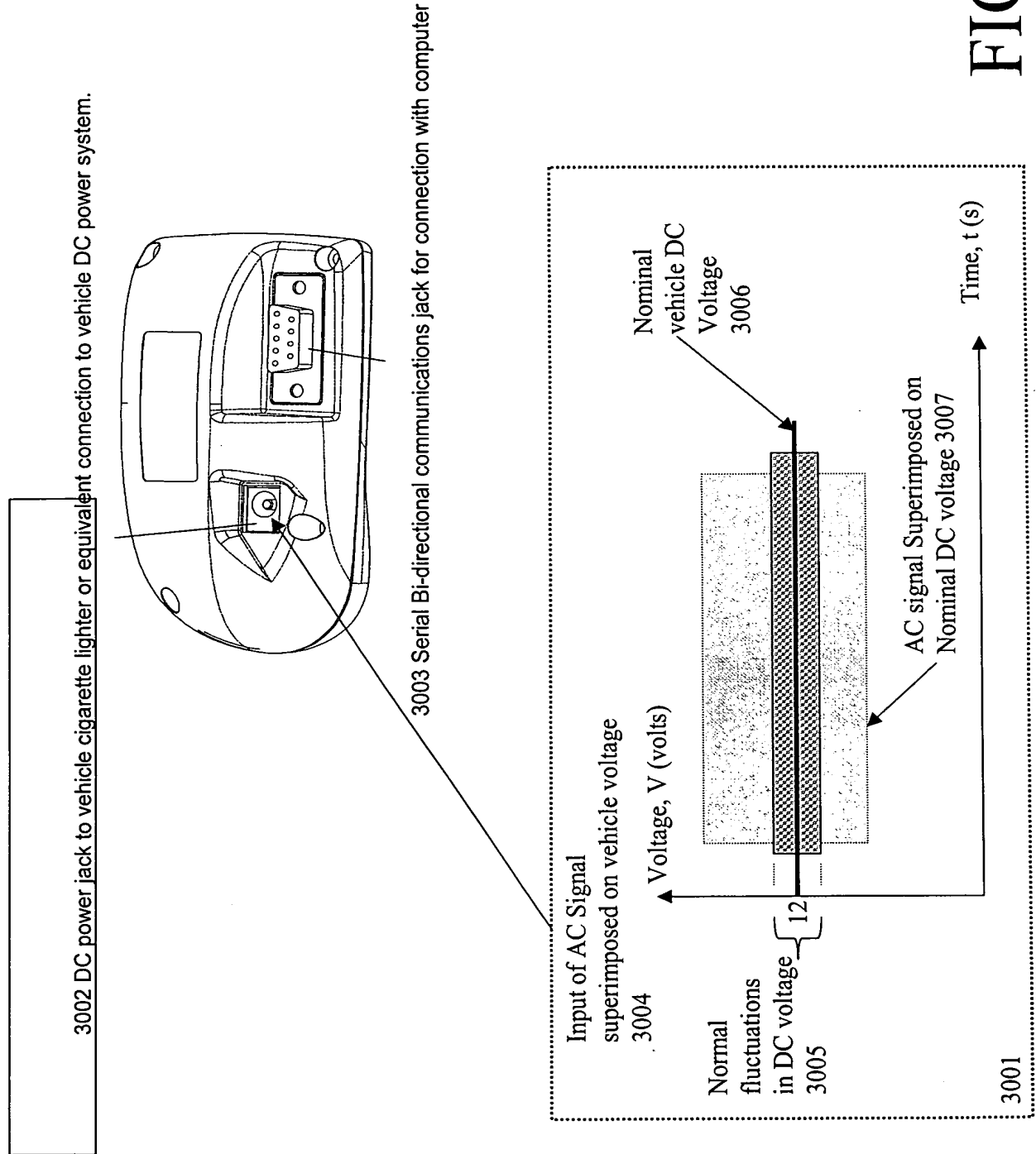


FIG. 3

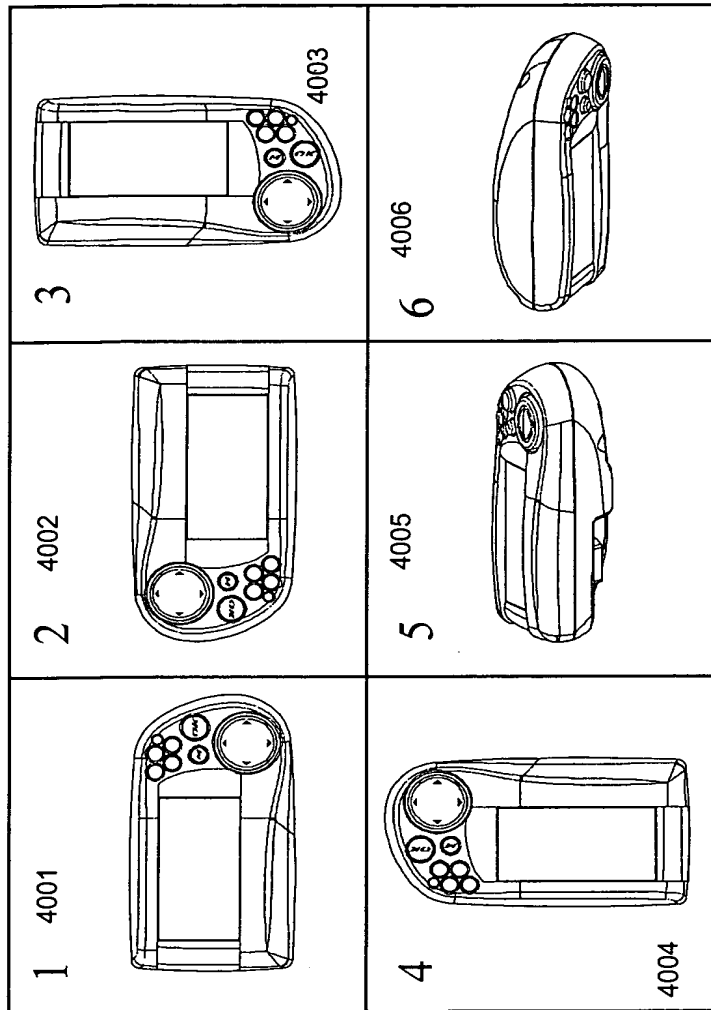
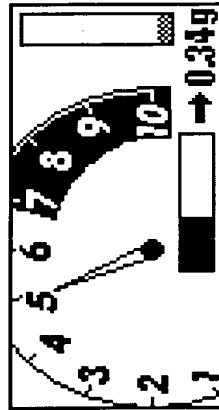
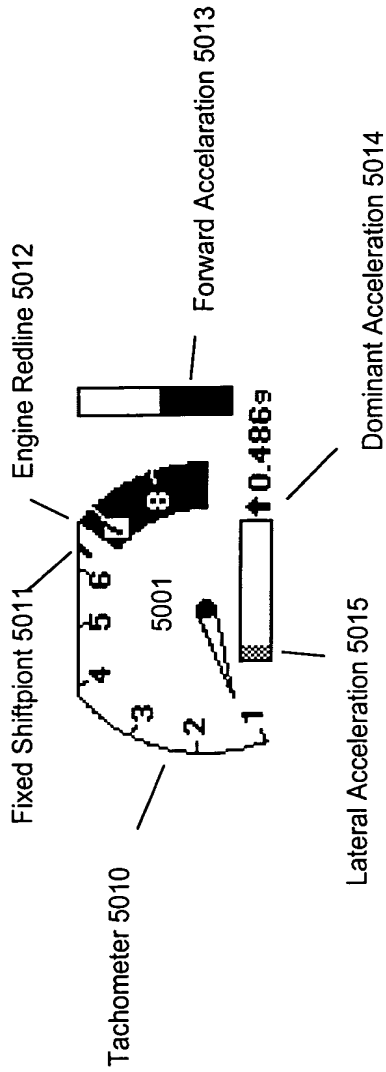
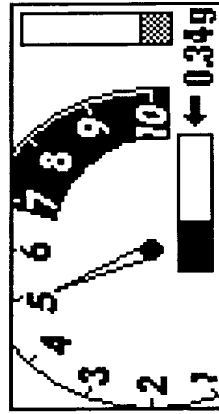


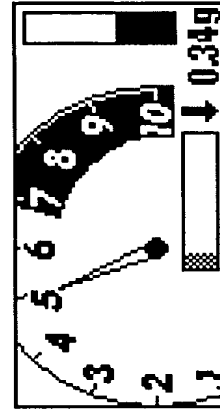
FIG. 4



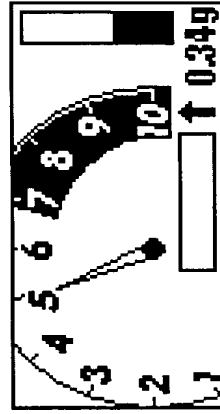
5002 Right turn with forward acceleration



5003 Left turn with some braking

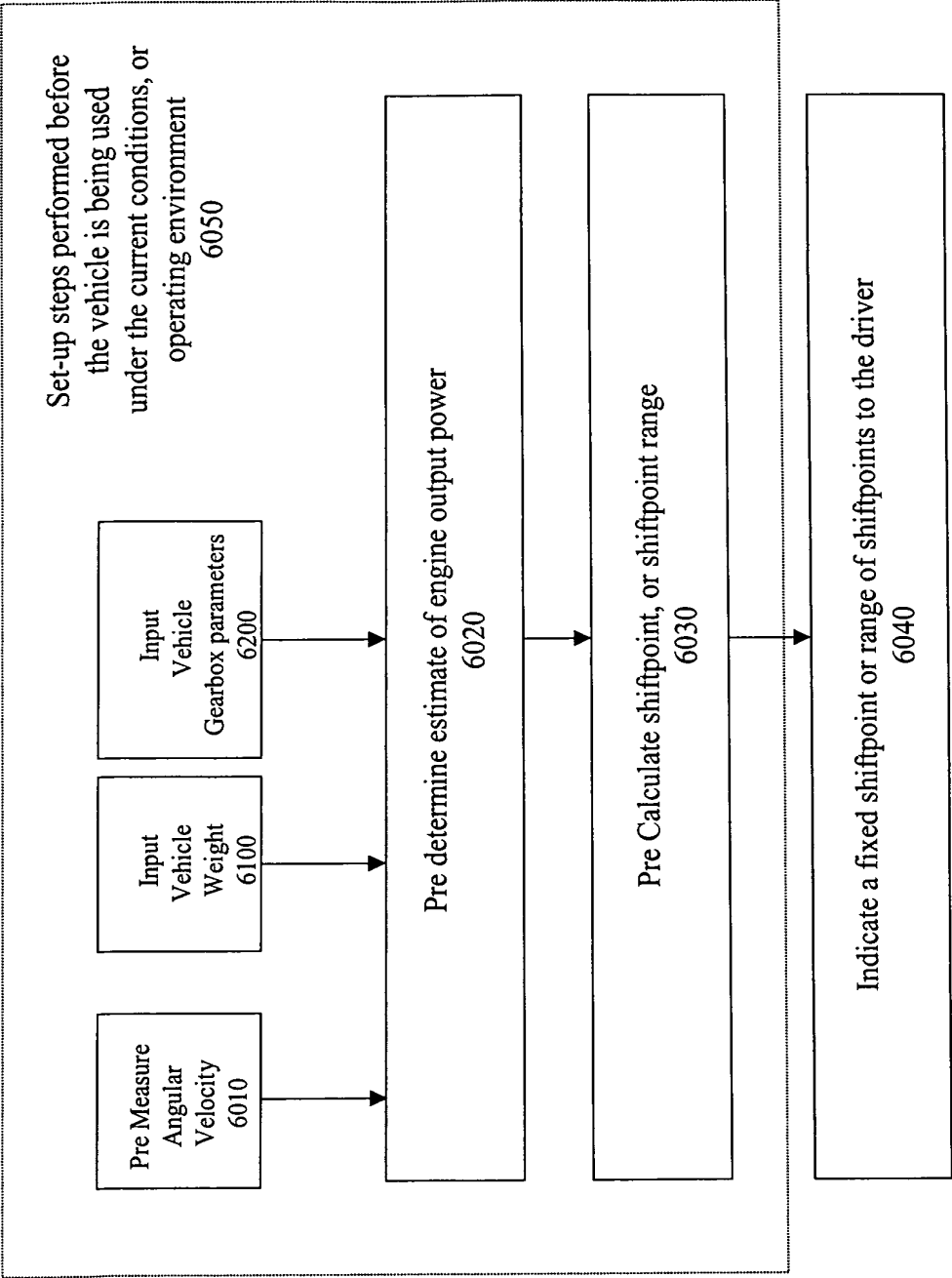


5004 Braking with some turning



5006 Acceleration in a straight line

FIG. 5



PRIOR ART FIG. 6

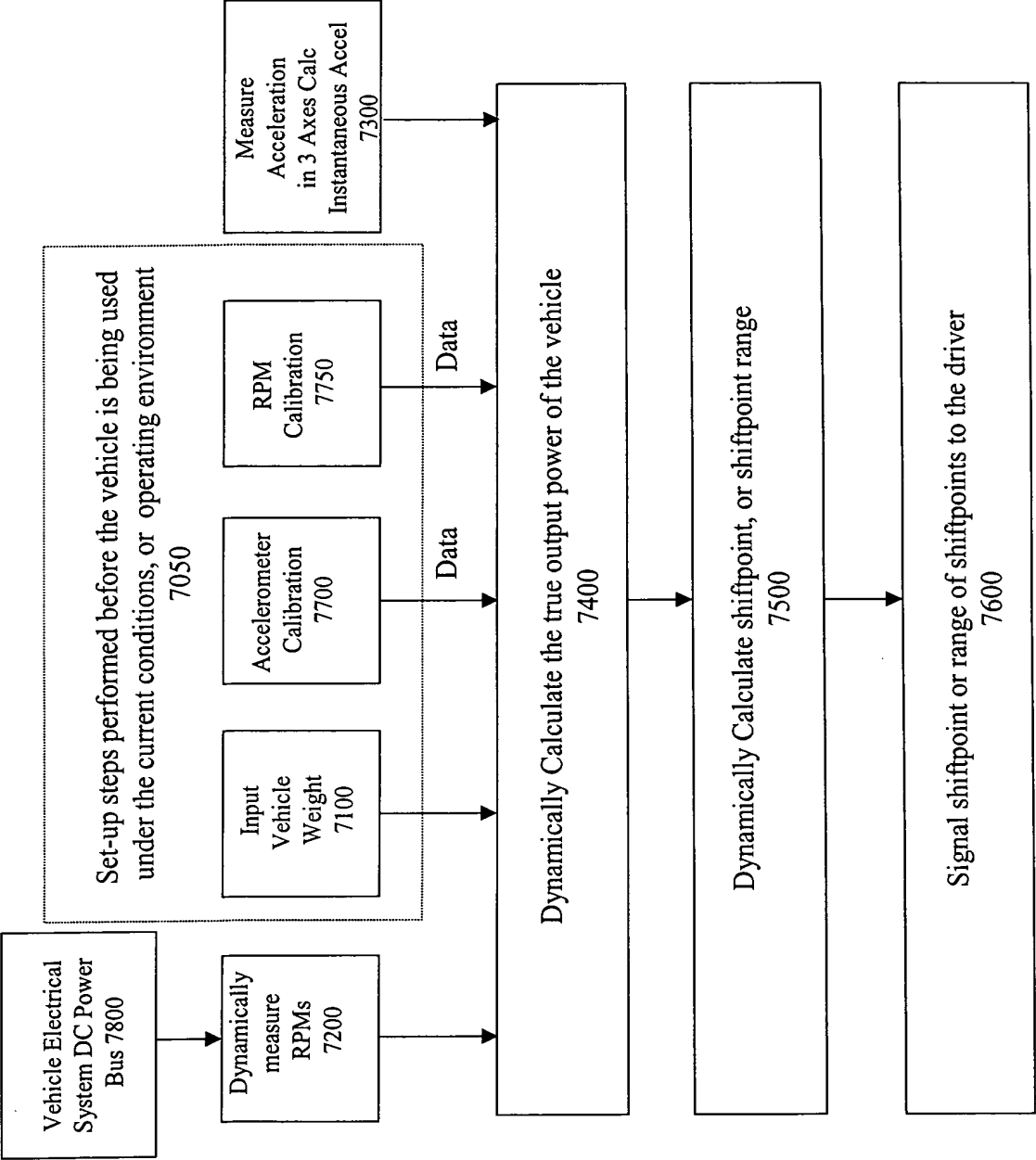


FIG. 7

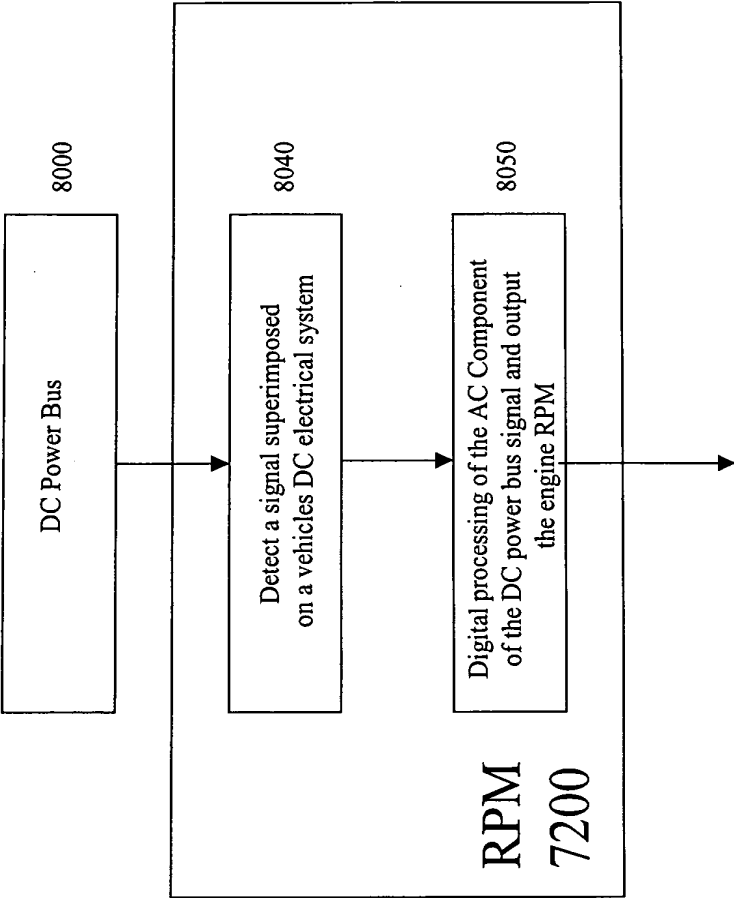


FIG. 8

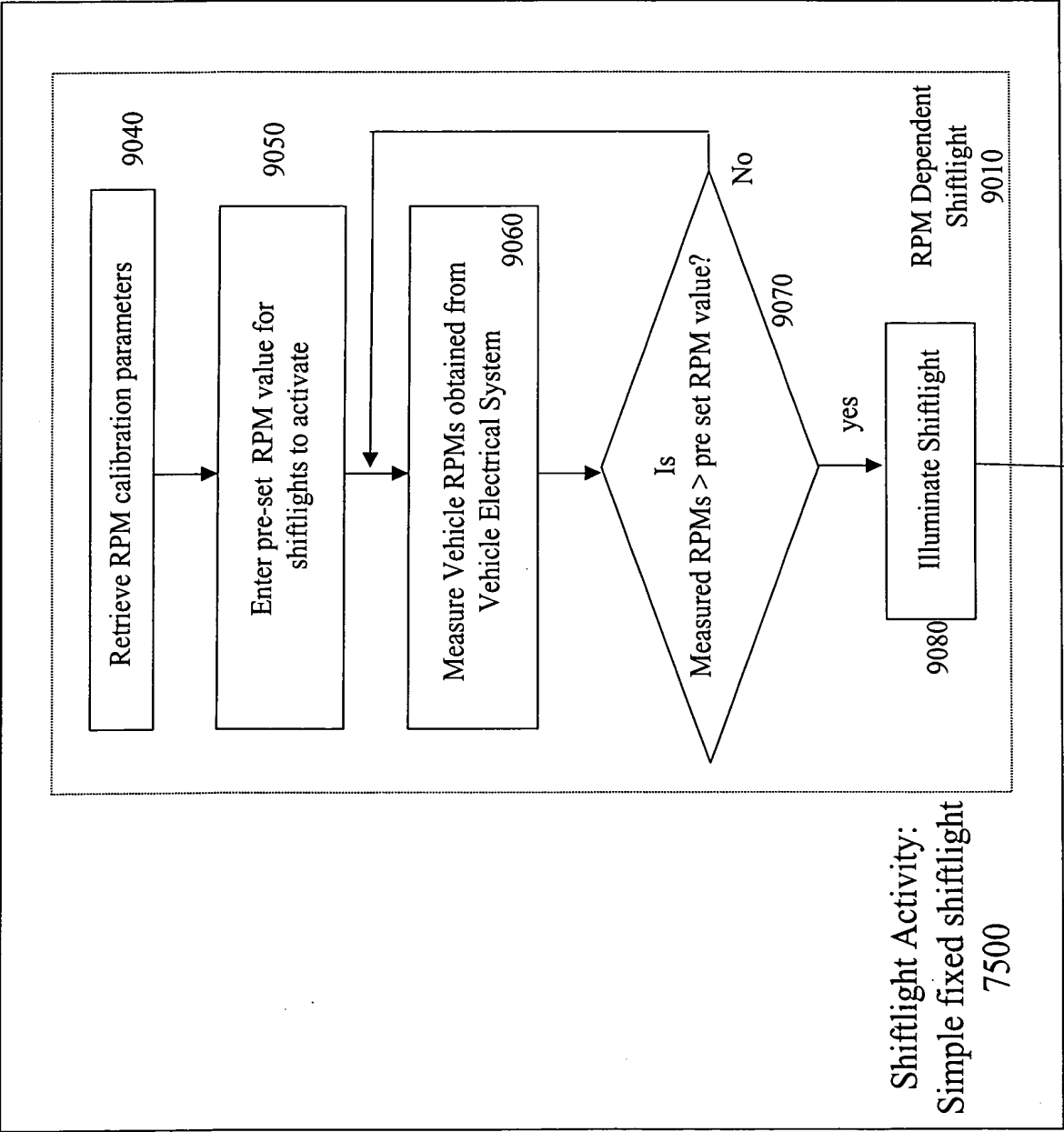


FIG. 9

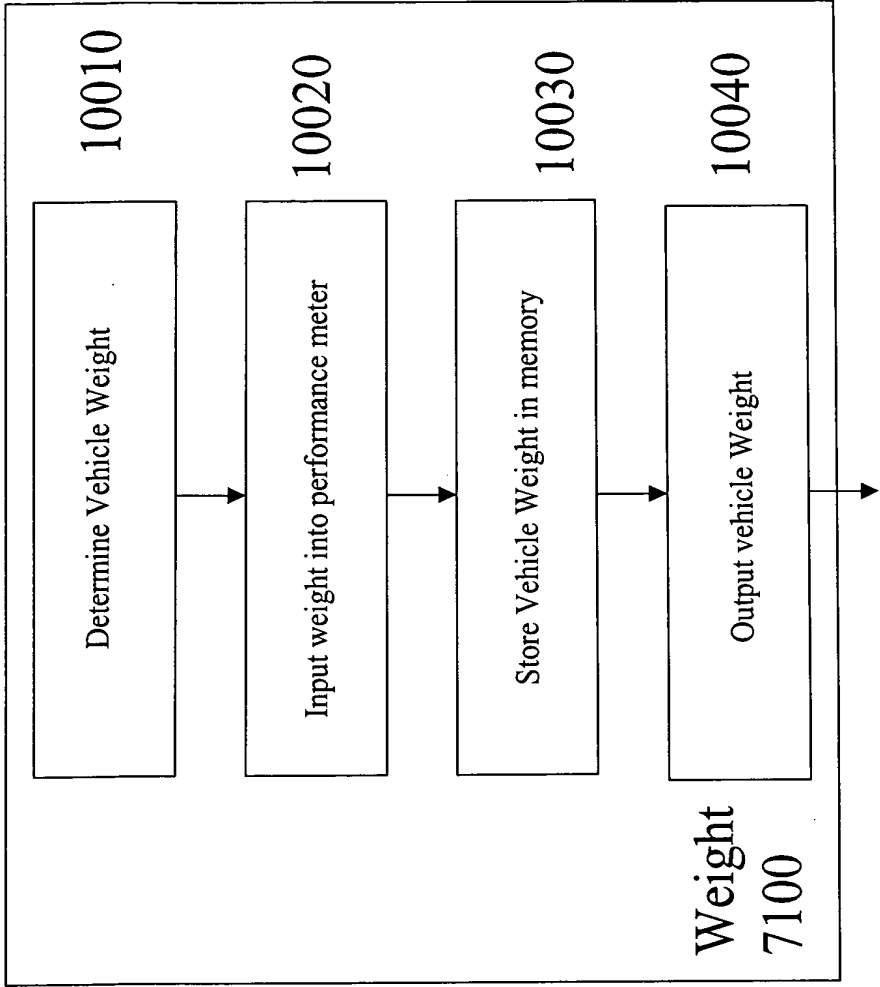


FIG. 10

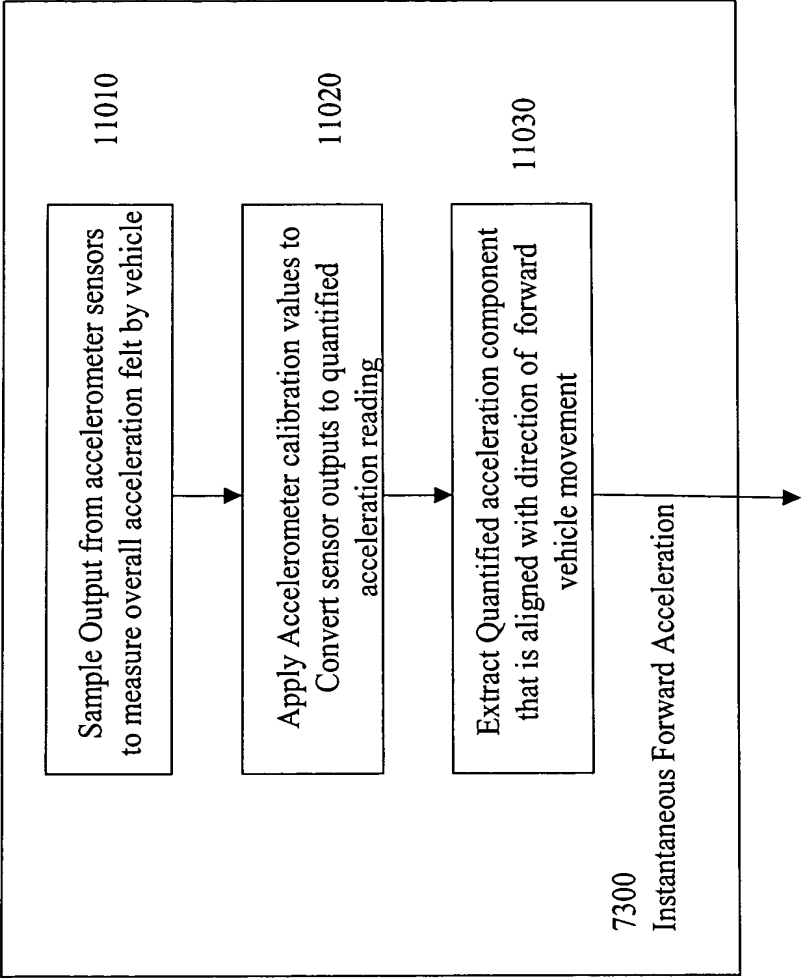


FIG. 11

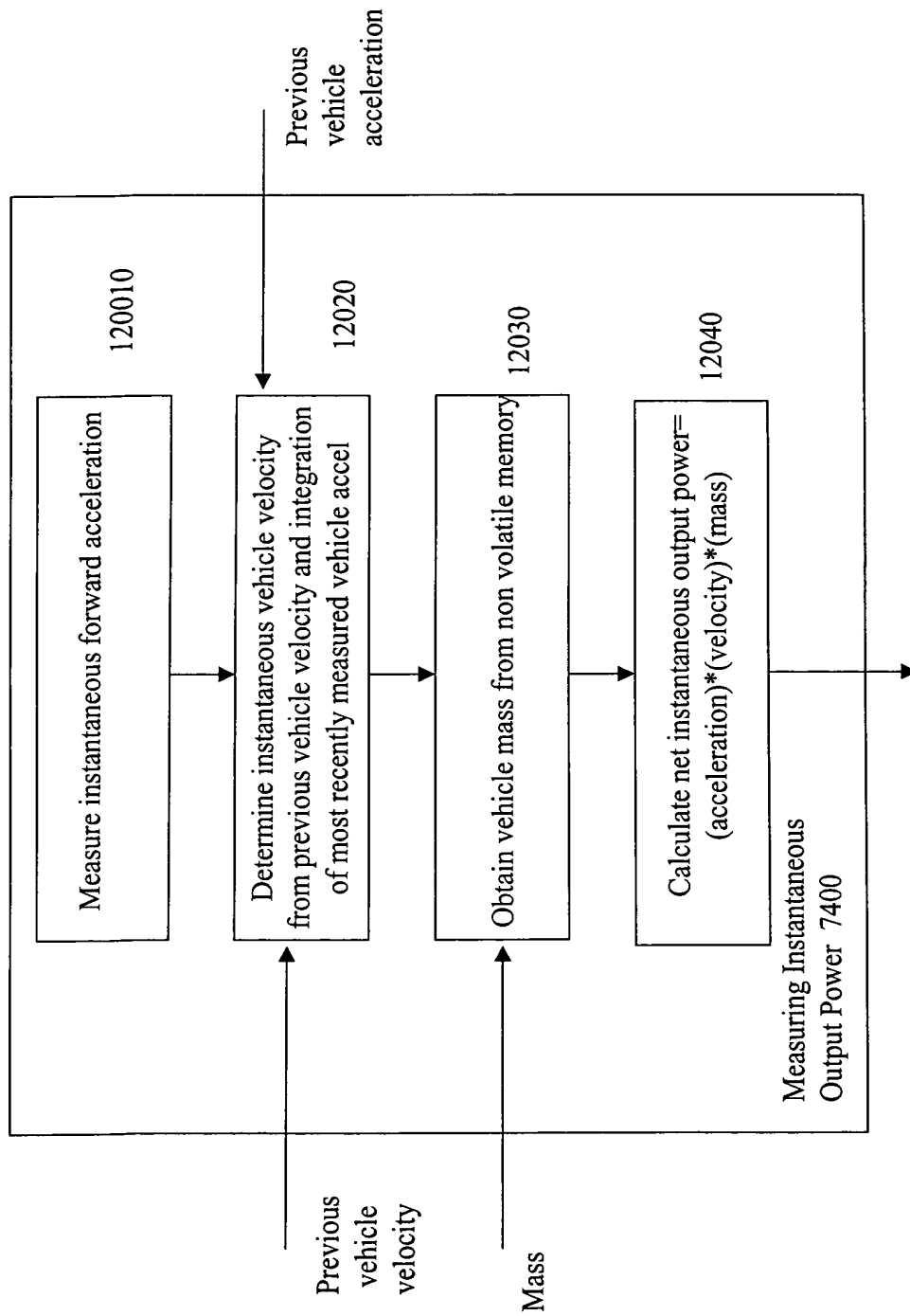


FIG. 12

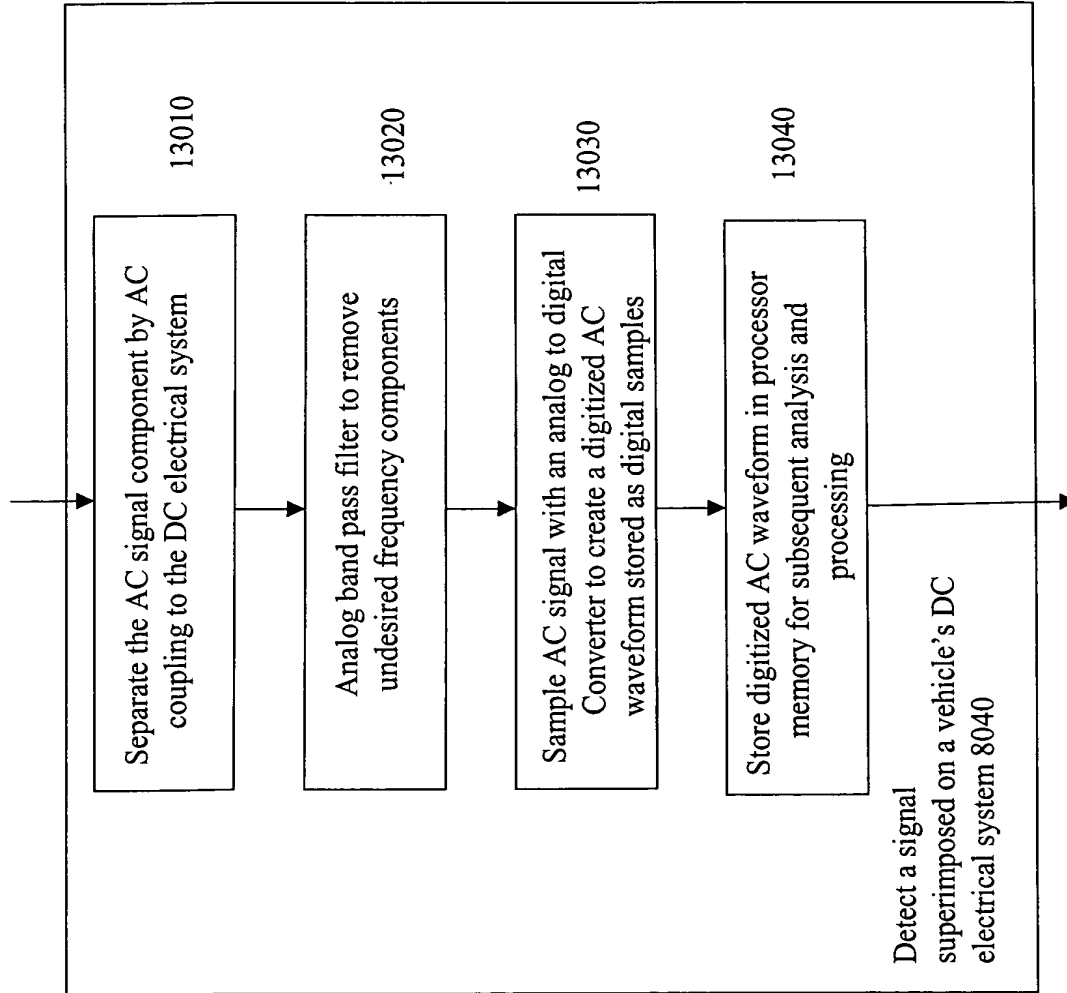
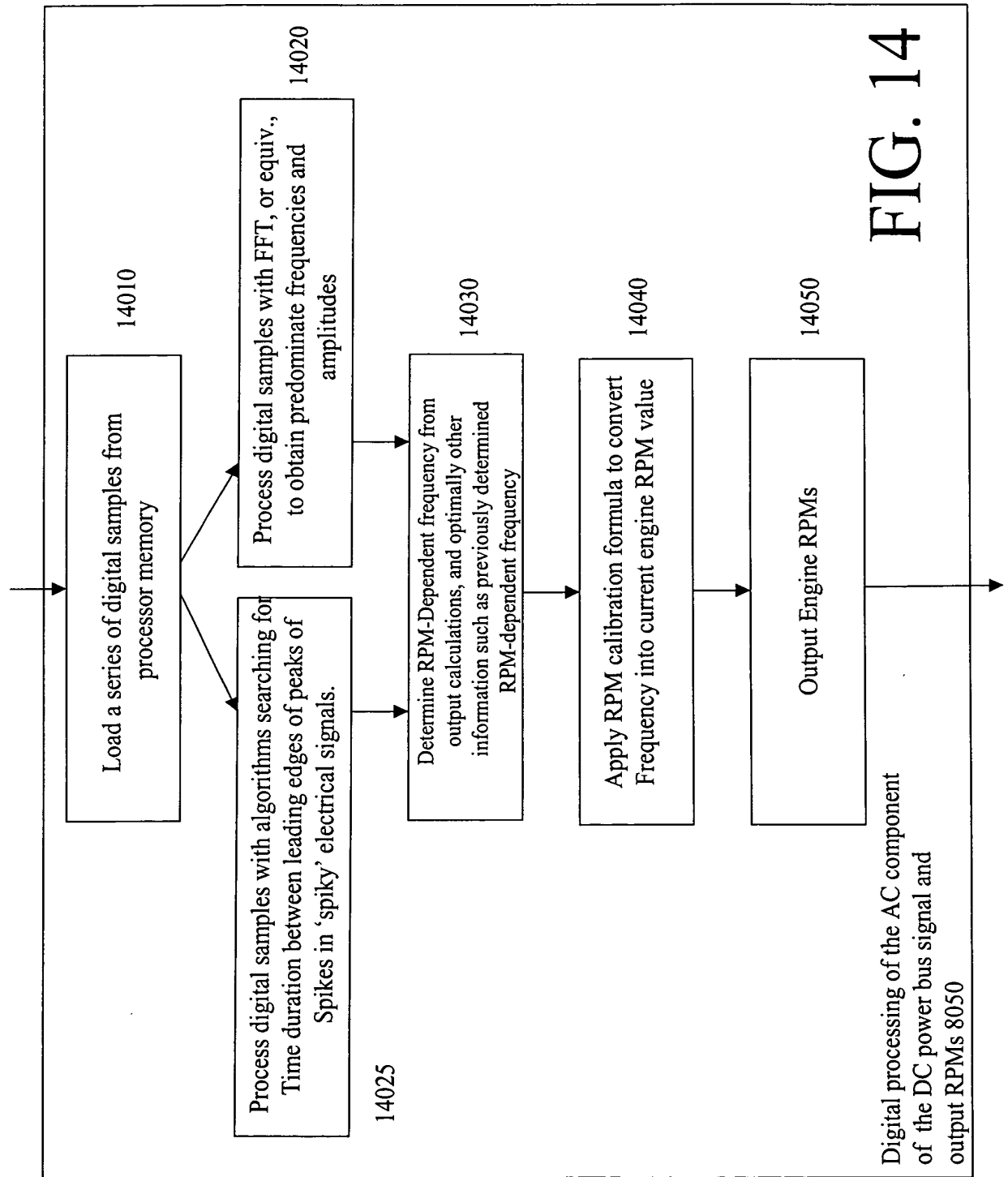


FIG. 13



Shiftlight Behavior

As RPMs increase, the shiftlights are affected.

When RPMs first exceed level L1, they transition from OFF to a LOW level. Once the LOW level is attained, the shiftlights will remain on, even if the RPMs drop a bit. Shiftlights will remain on LOW until the RPM level drops below level L1', which is lower than L1. This is to help with hysteresis and fluctuations in RPM levels.

Similarly, the shiftlights will transition to MEDIUM intensity when the RPM level first exceeds level L2, but they will not change back to LOW intensity until the RPM level drops below level L2'.

Any number of shiftlight levels is possible, along with the RPM range that they represent.

Similarly, the shiftlight ranges need not be equally spaced, i.e. the RPM range for LOW might be larger than the RPM range for MEDIUM.

Also, the RPM range between L3 and L3' need not be the same as the RPM range between L2 and L2', etc...

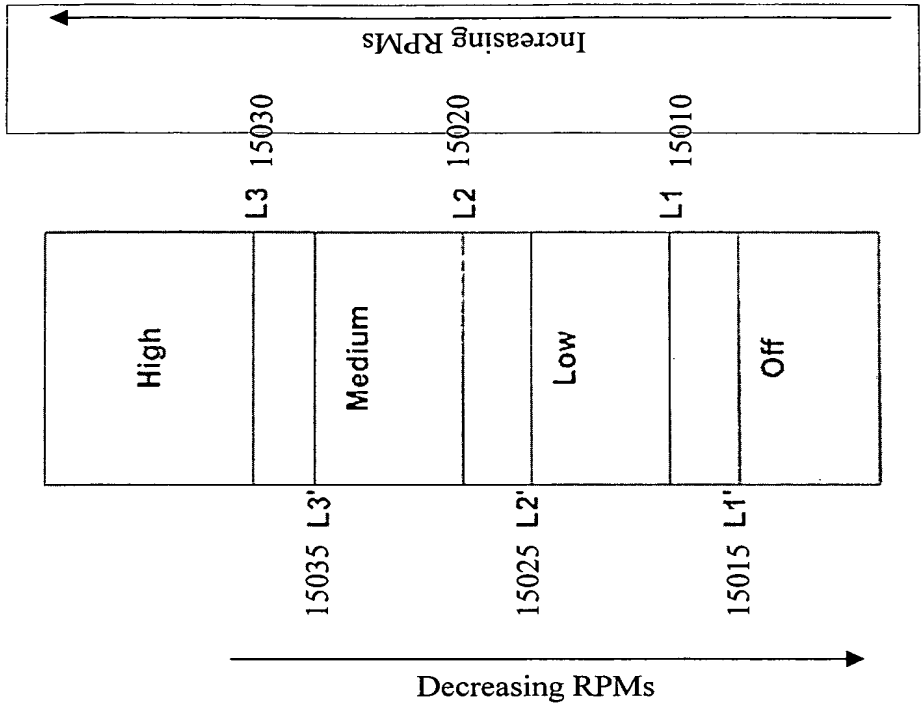


FIG. 15

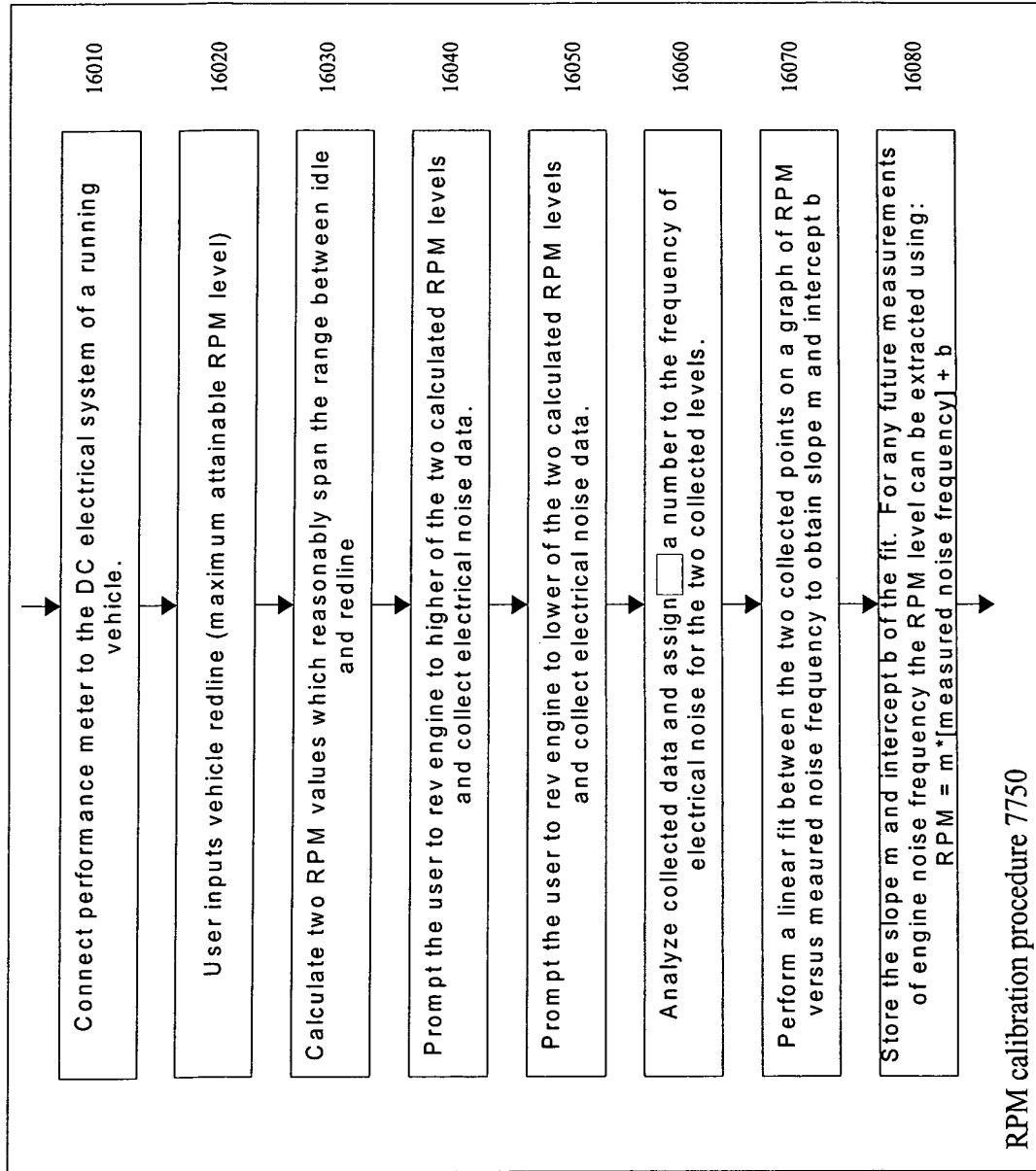


FIG. 16

The diagram illustrates the internal architecture of the Performance meter block diagram 17900. The central component is the Microcontroller 17050, which is connected to various peripheral modules:

- User Interface 17046/17047:** Enclosed in a dashed box, it includes Button switches 17045, Light Emitting Diodes (LEDs) 17045, and a Liquid Crystal Display (LCD) 17035.
- Sensors:** Accelerometer 17025, Accelerometer 17015, Accelerometer 17005, Temperature Sensor 17055, Photo sensor 17066, and Bi-directional Serial Communications port 17065.
- Memory and Storage:** Non-volatile memory 17090, Flash 17080, and RAM 17060.
- Power and Timing:** Voltage Converter, power for circuits. 17040 and Time and Date Clock battery 17068.
- Processing and Control:** DSP 17030 and RPM Sensing circuitry 17020.
- External Connections:** Crystal Oscillator 17067 and 12V DC Power Bus, connected to vehicle cigarette lighter, battery terminals, etc.. 17010.

The diagram shows the interconnections between these components, with the Microcontroller 17050 acting as the central hub for data and control signals.

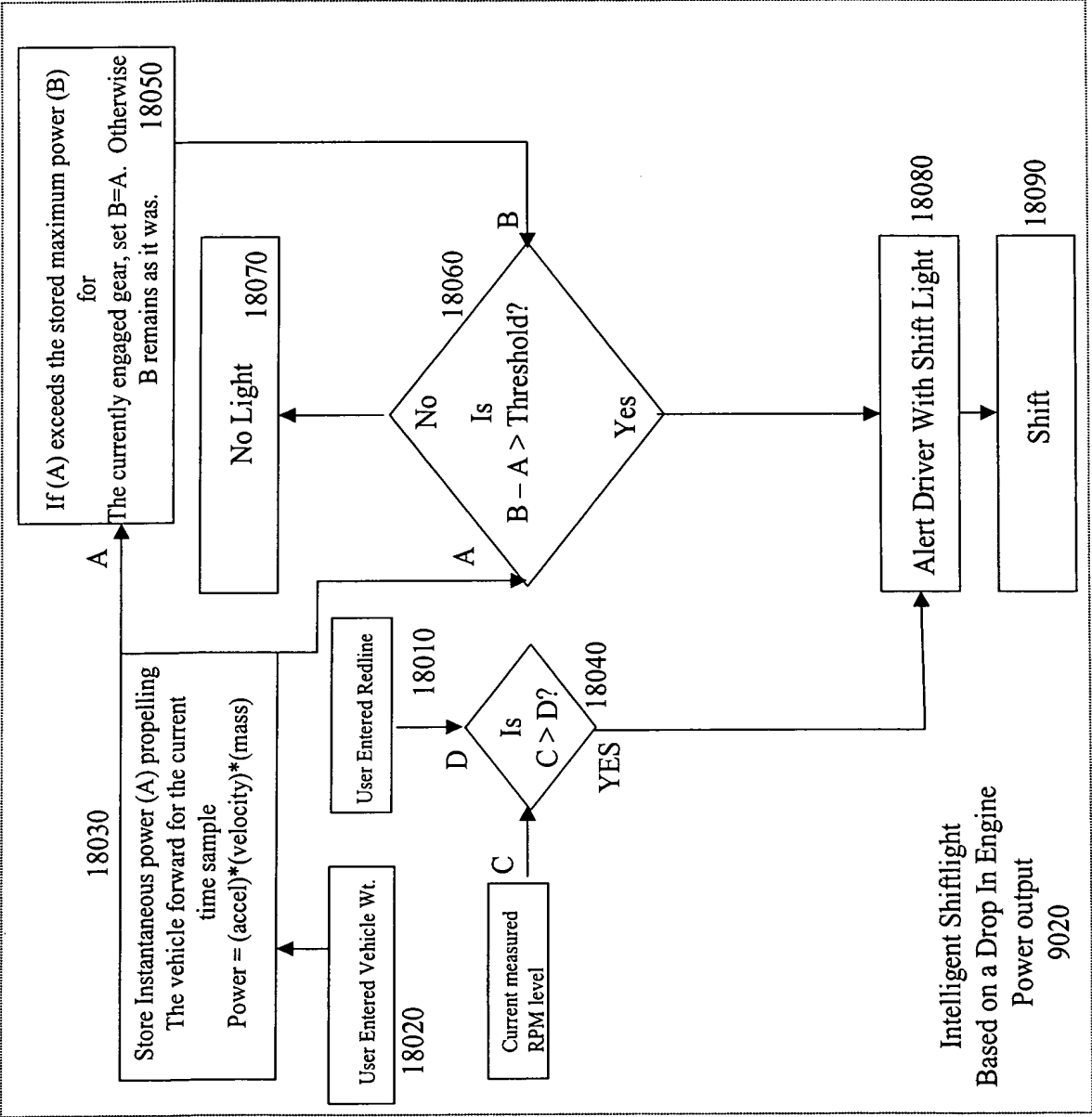


FIG. 18

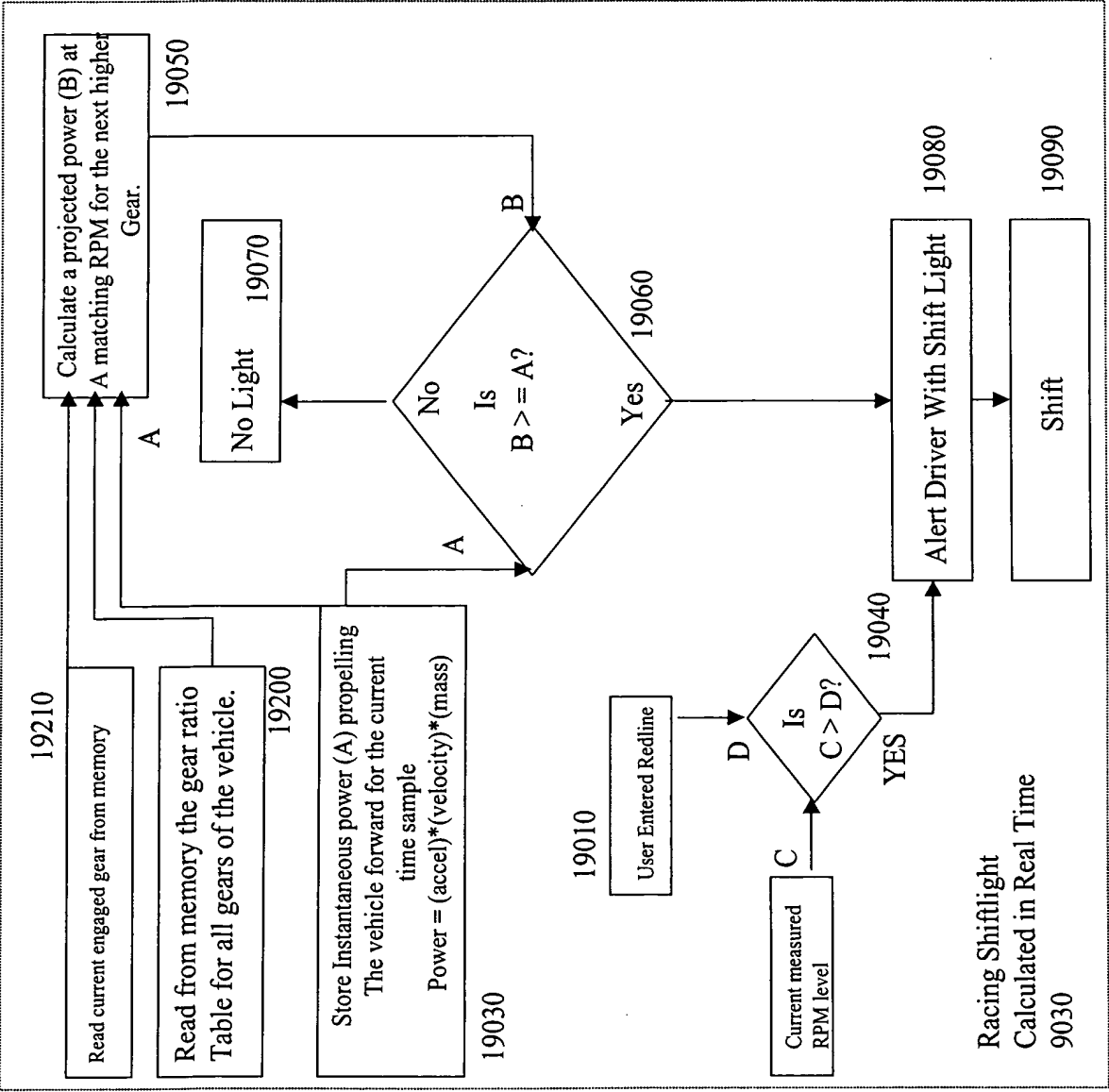


FIG. 19